

Aviation Abbreviations and Definitions

Acronyms

AC	Advisory Circular	Lmax	Maximum Sound Level
AFE	Airfield Elevation	MLS	Microwave Landing System
AGL	Above Ground Level	MSL	Mean Sea Level
ALP	Airport Layout Plan	NCP	Noise Compatibility Program
ATC	Air Traffic Control	NOTAMS	Notices to Airmen
BFI	Boeing Field	NM	Nautical Mile
CFR	Code of Federal Regulations	RNP	Required Navigation Performance
dB	Decibel	RNT	Renton Municipal Airport
dBA	A-Weighted Decibel	SEA	Seattle Tacoma International Airport
DME	Distance Measuring Equipment	SEL	Sound Exposure Level
DNL	Day Night Average Sound Level	SPL	Sound Pressure Level
EPA	Environmental Protection Agency	TA	Time Above
FAA	Federal Aviation Administration	TRACON	Terminal Radar Approach Control
GA	General Aviation	VASI	Visual Approach Slope Indicator
GPS	Global Positioning System	VHF	Very High Frequency
Hz	Hertz	VLJ	Very Light Jet
ILS	Instrument Landing System	VOR	VHF Omnidirectional Radio Range
INM	Integrated Noise Model	VORTAC	Combined VOR and TACAN System
Kt	Knots	WAAS	Wide Area Augmentation System
Leq	Equivalent Sound Level		

Definitions

A-weighted Sound Level - A measure of sound level with weighted frequency characteristics that correspond to human subjective response to noise.

Acoustics - The science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible.

Altitude - Height above a reference point, usually expressed in feet. Reference points are typically sea level, the ground, or airfield elevation in which case MSL, AGL, or AFE further describes the altitude, respectively.

Ambient, or Background, Noise Level - The level of noise that is all-encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near to and far from the receiver.

Arrival - The act of an aircraft approaching and landing at an airport.

Arrival Procedure - A series of directions from air traffic control, using fixes and procedures, to guide an

aircraft from the en route environment to an airport for landing.

Centroid - The point representing the geographic center of a U.S. Census Bureau census block.

Departure - The act of an aircraft taking flight and leaving an airport.

Day Night Average Sound Level (DNL) - A measure of the average noise level over a 24-hour day. It is the 24-hour, logarithmic (or energy) average, A-weighted sound pressure level with a 10-decibel penalty applied to the nighttime event levels that occur between 10:00 PM and 7:00 AM.

Decibel (dB) - a Logarithmic quantity reflecting the ratio of the sound pressure of the source to a reference pressure. This results in a sound pressure level of about 0 dB for the quietest sounds that we can detect and sound pressure levels of about 120 dB for the loudest sounds we can hear without pain. Most sounds in our daily environment have sound on the order of 30 to 100 dB.



Distance Measuring Equipment (DME) - Usually, the distance, in nautical miles, that an aircraft is located from a particular navigational aid; also, the instrumentation that provides the cockpit indication of the distance.

Energy-Averaged Sound Pressure Level (Leq) - The value or level of a steady, non-fluctuating sound that represents the same sound energy as the actual time-varying sound evaluated over the same time period; for environmental noise studies, Leq is typically evaluated over a one-hour period, and may be denoted as Leq(h).

Flight Track - The path along the ground followed by an aircraft in flight.

General Aviation (GA) - All civil aviation except passenger and cargo airlines.

Hertz (Hz) - The unit used to designate frequency (or pitch) of a sound; specifically, the number of cycles per second.

Integrated Noise Model (INM) - A computer program developed, updated, and maintained by the FAA to evaluate aircraft noise exposure in the vicinity of airports.

Knots (Kts) - Airspeed measured as the distance in international nautical miles covered in one hour.
Nautical Mile (NM) - A measure of distance equal to a one-minute arc on the earth's surface (approximately 6,076 feet).

Nighttime Day-Night Average Sound Level (NDNL) - The nighttime component of the Day Night Average Sound Level, evaluated over a 24-hour period and including the nighttime penalty.

Noise - Unwanted sound.

Noise Contour - Continuous lines of equal noise level usually drawn around a noise source. Noise contours often are drawn in 5-decibel increments and are generally used in depicting the noise exposure around airports, highways, and industrial plants.

Noise Abatement Procedure - Procedure followed during either aircraft departures or arrivals to minimize the off-airport impacts of aircraft noise.

Noise Exposure - The cumulative sound energy affecting a person over a specified period of time (e.g., a work shift, a day, a working life, or a lifetime).

Operation - A single aircraft arrival or departure at an airport.

Overflight - Aircraft flight originating and terminating outside the controlling facility's area that transits the airspace without landing.

Receiver - The listener or measuring microphone that detects the sound generated by the source.

Sound Exposure Level (SEL) - A time-integrated metric (i.e., continuously summed over a time period) which quantifies the total energy in the A-weighted sound level measured during a transient noise event. SEL accounts for both the duration and the loudness of a noise event.

Sound Pressure Level (SPL) - A measure, in decibels, of the magnitude of the sound. Specifically, the sound pressure level of a sound that, in decibels, is 10 times the logarithm to the base 10 of the ratio of the squared pressure of this sound to the squared reference pressure. The reference pressure is usually taken to be 20 micropascals.

Time Above (TA) - A noise metric providing the duration (usually in minutes) during which sound levels exceeded specified A-weighted sound levels. Typically TA refers to the duration within a 24-hour period that the sound level is exceeded.

Turbo-prop Aircraft - An aircraft whose main propulsive force is provided by a propeller driven by a gas turbine. Additional propulsive force may be provided by gas discharged from the turbine exhaust.

VORTAC (Very High Frequency Omni-directional Radio Range combined with Tactical Air Navigation Aid) - A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance measuring equipment (DME) at one site. The most common form of radio navigation currently in use.



Produced by Harris Miller Miller & Hanson Inc. to support community discussions about future Renton Airport development alternatives. These discussions are collaboratively planned and hosted by the Cities of Renton and Mercer Island, WA.

